

V.—*On Birds recently collected in Siam.* Part I. Phasianidæ—  
Eurylæmidæ. By C. BODEN KLOSS, M.B.O.U.

INTRODUCTION.

DURING September and November 1916 I spent a couple of months' vacation leave in Siam with three Dyak collectors: we got in about thirty-three actual working days, and our efforts were largely devoted to obtaining mammals as well as seeking for birds and reptiles.

Owing to the fact that the state of the country made it almost impossible for us to reach good collecting-ground in the districts I visited, if we were to do any collecting at all in the time available, the results are much smaller than perhaps they would have been in more favourable circumstances, and the collection of birds only numbers about 420 specimens of 145 species.

I was told that I had arrived at about the worst time possible for collecting, since near the end of the year the rains are at their height, the low-lying parts of the country flooded and the streams and rivers much swollen. This, indeed, I found to be the case; we were everywhere stopped by floods, and instead of collecting at chosen localities we had to work at places where one finally starts for these. We were hardly in forest at any time; also many species of birds were in a state of moult. When I left Siam, towards the end of November, conditions had begun to improve rapidly; it was the time when our visit should have commenced.

I reached Korat on September 30, with the intention of travelling eastward down the Nam Mun towards Ubon, but could not get to the river because the intervening country was flooded to a depth greater than the height of floor of our bullock-carts. We therefore started south-eastwards towards the mountains, where good forest was reported three or four days away, for I hoped we should travel over rising ground in that direction; but on the

second day progress was stopped by wide and deep inundations. As the country through which we passed was covered with scrub, bamboo, or open jungle, in which we saw scarcely any signs of mammals or birds, there was no inducement to make a camp; so we returned immediately to Korat. It was impossible not to admire the way in which the Siamese "kwien" (a bullock-cart built without a scrap of metal of any sort) negotiated the floods and, in many places, the appalling tracks through the roadless bush.

From Korat we went back westward about thirty miles to Lat Bua Kao. From the village gently-rising forested hills, which I had planned to visit, were visible to the south; but heavy rain, followed by a 25-foot rise of a river between, and the washing away of the only bridge put an end to hopes in that direction, and we had to be content with working the country to the north of the village. This consisted of scrub and bamboo, and a few patches of very poor dense forest which harboured scarcely any vertebrates. After a fortnight interest in this locality began to diminish, and we returned to Bangkok.

Next I went to Sriracha, on the west coast of the Inner Gulf, and, hiring a mat-sailed "rua-pet" about 35 feet long, visited the islands to the south as far as Koh Mesan, off Cape Liant, and spent two or three days ashore at the village of Sata-hip in Shelter Bay before returning to Bangkok again after ten days' absence. Birds were very scarce at all places visited during the cruise.

The next collecting-place was the village of Pak Bu, in the rice-fields near the mouth of the Tachin River or Nam Supan, about twenty miles west of Bangkok; only three or four days were spent in this locality, as it was soon exhausted.

The final excursion was a ten days' visit to Koh Lak, situated on the east coast of the Gulf of Siam in about lat.  $11^{\circ} 50'$  N.; again floods cut us off from the forest and the hills and confined us to the open country near the shore.

Thus the collections made largely illustrate the more or less open country of Siam, and provide in some ways an interesting contrast to the results of my former visit, which were obtained in the forested country of the south-east ('*Ibis*,' 1915, pp. 718-761).

The two places where most specimens were obtained, and which recur so often in the body of this paper, I have merely referred to as Lat Bua Kao and Koh Lak. Lat Bua Kao is in eastern Siam, about thirty miles west of Korat and just within the eastern foot of the hills which separate the slightly elevated, shallow basin of eastern Siam from the central Siam plain and the Menam river-system. My visit was made in October.

Koh Lak, in the State of Pran, south-western Siam, is on the east coast of the Malay Peninsula, a little south of the latitude of Mergui. The town is now called Prachuap Kirikan; but the other name is so much better known that I have continued to employ it, though it really applies to some small limestone islets lying a few hundred yards from the shore. "Koh" means island, but in this instance all my collections were obtained on the mainland: in all other cases where the word occurs in combination the specimens recorded are insular. I stayed at Koh Lak in November.

The divisions of Siam which I have used (central, eastern, etc.) are as defined in P.Z.S. 1916, p. 64, and '*Journal of the Natural History Society of Siam*,' i. p. 250 and map, except that I have now divided the longer continuous strip there called western and peninsular Siam into three areas, and call the middle portion south-western Siam. The new division lies between the reduced areas of the other two, and stretches from the Petchaburi River to the Isthmus of Kra—roughly speaking, between latitudes  $13^{\circ}$  and  $10^{\circ} 30' N$ . Western and south-western Siam are therefore co-terminous with the Burmese province of Tenasserim; while peninsular Siam is restricted to the northern part of the Malay Peninsula below the Isthmus of Kra, and has the Malay States to the south of it.

I have not burdened this paper with much local synonymy, and only a few references will be found to publications dealing with other countries, but which elucidate points of interest. Count Nils Gyldenstolpe, who writes very happily in English, has given a list of papers dealing with Siamese birds in the report on his last collections (Kungl. Sv. Vet.-Akad. Handl. lvi. No. 2, p. 4, 1916). To these I would add 'Stray Feathers,' to which direct application should be made by anyone working on Siamese birds: seen through the medium of Oates or Blanford, or the 'Catalogue of Birds,' the value of their contents cannot always be appreciated.

With regard to the methods of taking some of the measurements, it may be well to say that the total length (T. L.) is taken after the specimen has been well suppled and straightened out, but not unduly stretched; that the tail (T.) is measured from the angle between the bases of the inner pair of feathers to the tip of the longest feather; and that the wing-length (W.) is the distance in a straight line, taken on the inner side with a graded rule, between the anterior bend of the wing and the end of the longest feather: the wing is not flattened in any way, and the measurement is nearly always a chord.

With regard to the individual dimensions given: to the first specimen mentioned belongs the first measurement of each kind, to the second bird the second measurement, and so on throughout. The measurements are in millimetres.

The following new species and subspecies are described in this paper:—

*Thereiceryx flavostrictus prætermisus*, subsp. nov. (S. China.)

*Gecinulus viridis robinsoni*, subsp. nov. (Malay States.)

*Micropternus brachyurus williamsoni*, subsp. nov.

*M. b. lanka*, subsp. nov. (Ceylon.)

*M. b. mesos*, subsp. nov. (Cuttack, India.)

*M. b. humei*, subsp. nov. (W. Himalayas.)

*Callolophus mineatus perlutus*, subsp. nov.

*Chrysophlegma flavinucha lylei*, subsp. nov.

*Chrysocolaptes strictus chersonesus*, subsp. nov. (Singapore.)

*Volvocivora koratensis*, sp. nov.



- Chloropsis aurifrons inornatus*, subsp. nov.  
*Otocompsa flaviventris minor*, subsp. nov.  
*Mixornis rubricapilla connectens*, subsp. nov.  
*Dicrurus annectens siamensis*, subsp. nov.  
*Chalcopteryx singalensis koratensis*, subsp. nov.  
*Dicaeum cruentatum siamensis*, subsp. nov.

*List of Species obtained.*

PHASIANIDÆ.

+1. *Lophura diardi* (Bp.).

1 ♂ ad., 1 ♀ imm. Lat Bua Kao.

*Male.* Iris yellowish-brown; orbital skin vermilion; bill dull yellowish-grey; cere brown; feet brilliant blood-red; spurs and claws pale brownish-horn.

Total length 680; tail 280; wing 246; tarsus 99 mm.

*Immature female.* Iris brown; orbital skin pale blood-red; maxilla horny, mandible pinkish-grey; feet cerise.

Total length 445; tail 175; wing 174; tarsus 57.

*Plumage of immature bird.* Head and neck dull brown, slightly barred with fulvous and black on the occiput; sides of neck with small fulvescent patches; chin and throat whitish. Mantle, fore-neck, and sides of upper breast ferruginous, barred and vermiculated with black; scapulars mingled black, ferruginous, and buff; lower breast ferruginous, the feathers edged with white; abdomen greyish-white; thighs and flank-coverts mingled fulvous, grey, and white; lower tail-coverts pale chestnut barred with black. Wings black barred with black-spotted buff bands; the outer webs of some of the primaries and secondaries strongly suffused with fulvous; back, rump, and upper tail-coverts black barred with buffy; middle pair of tail-feathers black barred with pale buff; next pair black barred proximally with buffy, distally with pale chestnut; remaining feathers pale chestnut barred with black on the inner webs, the barring least on the outer feathers.

Though I obtained only these two examples (which were flushed in little meadows of long grass amongst open forest and scrub) the birds seem to be fairly common in the neighbourhood, as Mr. W. J. F. Williamson's collectors,

who had worked at Lat Bua Kao in the month before my visit, got several examples there in beautiful plumage, while my male is badly in moult.

Diard's Pheasant is a popular aviary bird in Bangkok.

† 2. *Francolinus chinensis* (Osbeck).

1 ♀ ad. Lat Bua Kao.

Iris brown; nostrils, culmen, and tip of bill black, remaining parts fleshy; feet orange-yellow.

T. L. 280; W. 134; tarsus 37; bill from gape 24.

Flushed in a patch of long grass surrounded by bush.

† 3. *Gallus gallus* (Linn.).

*Gallus bankiva bankiva* Baker, Journ. Nat. Hist. Soc. Bombay, xxv. 1917, p. 18.

1 ♂. Lat Bua Kao.

4 ♂. Koh Mesan, off Cape Liant, S.E. Siam. Nov. 1916.

1 ♂, 1 ♀. Koh Lak.

*Males.* Iris deep orange, orange-brown, or umber; bare skin of head fleshy to pale crimson; maxilla black or brown; mandible horny, pale grey, or fleshy; feet brownish-grey, slaty-grey, or plumbeous-black.

*Female.* Iris dark; skin of head deep fleshy; feet dull plumbeous.

The four cocks from Koh Mesan have bluish-white neck-patches, which are absent in the mainland birds.

Males: W. 210\*, 212\*, 218, 219\*, 224, 224.

Female: W. 175.

Jungle-fowl were common at every place visited, and were easily obtained in the early morning in open bush or clearings at the edge of forest. I never succeeded in getting an old male with a perfect tail, and only preserved a few of the birds we shot.

Stuart Baker has recently dealt with the Common Jungle-fowl, of which he recognizes two forms: one ranging from India through Assam to Sadiya, which he calls *Gallus bankiva ferrugineus*, and the other occurring in Malaya,

\* Sub-adult.

Indo-China, and China, denominated *G. bankiva bankiva*. The former is said to have the hackles more yellow and more lanceolate than in the latter, in which they are redder and broader-tipped; but the main character relied on for separation is that in the Indian bird the ear-lappets are invariably red, while in the other they are almost equally invariably white or pinkish-white (*t. c. s.* pp. 2, 3).

Through lack of material I am in no position to endorse or contest Mr. Baker's conclusions; but the series I obtained in Siam seems to show that the latter distinction is not a good one, for I do not think we need entertain the idea that the island birds are in any way distinct from those of the adjacent mainland.

I do not know of any reason for rejecting the name *gallus* for the species; but while there no doubt occur two distinct forms of the Common Jungle-fowl, more or less as indicated by Baker, I do not employ *bankiva* here for the Malayo-Siamese bird: this name was based on Sundanese examples, and an examination of recently-collected material from Java shows that there occurs in that island a very distinct form, for which I think it will have to be reserved.

#### COLUMBIDÆ.

##### †4. *Osmotreron bicincta domvilli* (Blyth).

2 ♀. Lat Bua Kao.

1 ♀. Koh Mesan, off Cape Liant, S.E. Siam. Nov. 1916.

Iris—inner ring blue, outer pinkish-yellow; bill pale grey-blue; feet cerise.

T. L. 270, 275, 270; W. 146, 146, 149.

##### ✦ 5. *Treron curvirostra nipalensis* (Hodg.).

2 ♂. Lat Bua Kao.

Iris yellow; orbital skin apple-green; bill—proximal half crimson, distal half greenish-ivory; feet cerise.

T. L. 286, 260; W. 144, 139; bill from gape 21, 22.

The smaller bird has the white areas of the thighs and abdomen very reduced.

† 6. *Carpophaga ænea* (Linn.).

2 ♂, 1 ♀. Lat Bua Kao.

Iris and edge of eyelid crimson; bill blue-grey, cere plum-colour; feet plum-colour.

Males: T. L. 410, 410; T. 147, 126; W. 230, 223; bill from gape 32, 33; exposed culmen 21.5, 23.

Female: T. L. 390; T. 131; W. 120; bill from gape 32.5; exposed culmen 22.

This Pigeon was fairly common, and we shot numerous individuals, but did not preserve them because they were so often damaged by shot or by their falls from tree-tops. The three birds retained illustrate both the vinaceous and grey phases of colour, the latter being shown by the two smaller specimens.

I was struck by the small size of the bills of my birds, but the loan by Mr. W. J. F. Williamson of a series from various parts of Siam, including three more specimens from Lat Bua Kao, shows that this is only an individual peculiarity, though none of the Siamese birds have bills quite so large as the largest of a Malayan series.

† 7. *Alsocomus puniceus* Tickell.

1 ♀. Koh Lak.

Iris salmon-pink; eyelids and cere dull crimson; bill pale greenish-grey, base of mandible dull crimson; feet crimson.

T. L. 350; W. 208.

Nowhere a common bird in the Malay Peninsula: it does not seem to extend south beyond Peninsular Siam.

† 8. *Streptopelia suratensis tigrina* (Temm.).

2 ♂, 2 ♀. Lat Bua Kao.

1 ♂. Koh Lak.

Iris pink, pinkish-yellow, or yellow; orbital skin grey; bill black; feet dull cerise or livid red.

Males: T. L. 320, 310, 318; W. 147, 149, 151; bill from gape 21, 21, 21.

Females: T. L. 330, 315; W. 147, 149; B. f. g. 22, 21.5.



Very common everywhere in suitable localities, such as open ground in the neighbourhood of villages. Often seen feeding on the ground in large flocks, and when disturbed only flies a short distance.

9. *Œnopus tranquebarica humilis* (Temm.).

1 ♀. Koh Lak.

Iris dark ; orbital skin grey ; bill black ; feet dark fleshy-brown.

T. L. 242 ; W. 136.

Very pale and grey on the under surface, with the brown of the back and wings dull, differing notably in this respect from another female (W. 137) from Chainat, Central Siam (coll. H.R.H. Prince Chumporn)—in fact, the description of the female of *O. t. tranquebarica* seems to well apply to it.

Mr. W. J. F. Williamson has lent me a pair of these Doves from Bangkok, an intermediate locality. The female is not quite so dull and grey as my example, which it resembles in having a grey-tinged head and greyish feathers immediately above the nuchal collar ; but it is still quite different from the bright brown Chainat bird, which has very little grey on the abdomen and the neck concolorous with the back below the black collar.

A female from Manila, Philippine Islands, is yet paler and more fulvous than the Chainat specimen, and has the fore-neck and breast tinged with vinous (W. 127 mm.) ; the male Bangkok bird agrees with a Manila male and is about the same size.

*Turtur humilis* of Temminck was stated to occur in Bengal and the island of Luzon, and the former, as the first region cited, should be regarded as the typical locality. If Philippine birds differ, the name *Columba cinerea* of Scopoli is available for them.

*O. t. humilis* probably does not extend southwards beyond Tenasserim, and examples recorded from Malacca must certainly have been cage-birds.

## RALLIDÆ.

- +10. *Amaurornis phœnicura chinensis* (Bodd.).  
 Stresemann, Nov. Zool. xx. p. 304 (1913).  
 1 ♂. Tachin, Central Siam. Oct. 1916.  
 W. 170; T. 72; Ta. 53; B. f. g. 40.

## CHARADRIIDÆ.

- +11. *Sarcogrammus indicus atrinuchalis* Blyth.  
 1 ♂. Lat Bua Kao.  
 1 ♂. Koh Lan, Inner Gulf of Siam. Oct. 1913.  
 2 ♀. Koh Lak.  
 Iris hazel or crimson; wattles dull carmine; bill—  
 proximal half dull crimson, distal half black; feet dull  
 yellow, "knees" and toes tinged with olive or grey.  
 Males: T. L. 330, 330; W. 215, 212.  
 Females: T. L. 310, 322; W. 195, 206.  
 Very common in open country.
- +12. *Charadrius dominicus* P. S. L. Müll.  
 1 ♀. Koh Lak.  
 Iris dark; bill black; legs dark plumbeous; feet black.  
 T. L. 253; W. 161; Ta. 41; B. f. g. 29. Distance  
 between extremity of longest secondaries and end of wing  
 50 mm.
- +13. *Charadrius geoffroyi* Wagl.  
 1 ♂. Koh Lak.  
 Iris dark; bill black; legs stone-grey; feet plumbeous-  
 black.  
 T. L. 212; W. 143; Ta. 36.
- +14. *Charadrius alexandrinus dealbatus* (Swinh.).  
*Ægialites dealbatus* Swinhoe, P. Z. S. 1870, p. 138.  
*Charadrius alexandrinus dealbatus* Hartert & Jackson,  
 Ibis, 1915, p. 528.  
 1 ♀. Koh Kram, Inner Gulf of Siam. Nov. 1916.  
 2 ♀. Koh Lak.

Iris dark ; bill black ; legs stone-grey or yellowish-grey ; feet grey-black.

T. L. 175, 173, — ; W. 108, 110, 108 ; Ta. —, 26·5, 28 ; B. f. g. 21, 18, 20.

The bird from Koh Lak has the head slightly tinged with sandy-buff.

Hartert and Jackson, in their "Notes on some Waders" (*l. c. s. p.* 527), recognize two subspecies of *C. alexandrinus* as winter visitors in south-eastern Asia—*C. a. alexandrinus*, "bill generally about 14–15 mm., hardly ever longer" (Malay Peninsula and Islands), and *C. a. dealbatus* Swinh., differing "in its considerably stouter and longer bill . . . generally 16–17·5 mm." (Amherst, Tenasserim). By "bill" (of which no definition is given) I understand in this instance the exposed portion of the culmen, which in my Koh Lak birds measures 16·3, 17, 18 mm., while a female and two males from the southern part of the Malay Peninsula (Selangor, Malay States) have exposed culmens of 18, 19, 19 mm. and wings of 112, 110, 108 mm. respectively.

As the type of *C. a. dealbatus* was said to have a bill of ·75 inch, or 19 mm., Hartert and Jackson are evidently wrong in their diagnosis of the race ; and its range must be extended to the south of the Malay Peninsula, where, according to these authors, the true *C. alexandrinus* occurs, though it is not yet represented there in the local museums.

†15. *Totanus glottis* (Linn.).

1 ♀. Bangkok, Central Siam. Oct. 1916.

W. 187 ; Ta. 57 ; B. f. g. 62.

ARDEIDÆ.

†16. *Butorides javanica* (Horsf.).

1 ♀. Tachin, Central Siam. Oct. 1916.

W. 170 ; Ta. 47 ; B. f. g. 76.

17. *Ardeola grayi* (Sykes).

1 ♂. Lat Bua Kao.

1 ♀. Tachin, Central Siam. Oct. 1916.

Iris yellow; orbital skin yellow and green; maxilla black; mandible yellow, base green, tip black; feet apple-green.

Male: T. L. 515; W. 221; Ta. 57; B. f. g. 79.

Female: T. L. —; W. 197; Ta. 52; B. f. g. 71.5.

+ 18. *Bubulcus coromandus* (Bodd.).

1 ♀. Koh Lak.

Iris pale yellow; bill deep yellow; feet black, soles pale olive.

T. L. 525; W. 249; Ta. 88; B. f. g. 77.

FALCONIDÆ.

† 19. *Astur badius poliopsis* (Hume).

*Micronisus poliopsis* Hume, Stray Feathers, ii. 1874, p. 325.

1 ♂ ad. Koh Si Chang, Inner Gulf of Siam. Jan. 1915.

1 ♂ ad. Koh Lan, „ „ Oct. 1916.

1 ♀ ad. Koh Lak.

1 ♂ imm., 1 ♀ ad. Lat Bua Kao.

Iris yellow or crimson, or crimson with a narrow outer ring of yellow; bill black, base grey, cere yellowish-olive; feet yellow, sometimes tinged with greenish; claws black.

Males: T. L. —, 305, 310\*; W. 195, 188, 181\*.

Females: T. L. 360, 355; W. 210, 205.

The male from Koh Si Chang is an old bird, with pure white thighs and the middle pair of tail-feathers entirely devoid of dark bars or spots.

The immature male is brown above with a considerable exposure of white on crown, nape, and scapulars; cheeks and ear-coverts striped brown and white; under surface white with a brown median throat-stripe and dark patches on the feathers, very elongate on the breast but becoming broader than long on the flanks; thighs banded.

All adults exhibit a grey throat-stripe.

\* Immature.



† 20. *Baza lophotes* (Temm.).

1 ♀. Lat Bua Kao.

Bill and feet pale blue-grey:

T. L. 310; W. 224. Length of crest-feathers 60 mm.

Though apparently fully adult, this specimen seems rather small for a female, but I have no reason to doubt that it has been properly sexed.

Hawks of many species seemed very common in the open country of Siam, but as at the time of my visit these areas were flooded, and under rice almost ripe for harvesting, we found it practically impossible to obtain specimens.

## ASIONIDÆ.

† 21. *Scops bakkamœna lempiji* Horsf.

*Otus bakkamœna lempiji* Hartert, Vögel pal. Fauna, ii. 1913, p. 974.

1 ♂ ad. Koh Mesan, off Cape Liant, S.E. Siam. Nov. 1916.

Iris dark; bill pale yellowish-grey; feet pale brownish-yellow.

T. L. 215; W. 153.

This is a rather dull-coloured example; the feathering of the tarsi does not extend to the toes, and the fifth quill of the wing is slightly the longest. It is perhaps somewhat intermediate between the Javanese race and *S. b. lettia* of Nepal.

† 22. *Ninox scutulata burmanica* Hume.

*Ninox burmanica* Hume, Stray Feathers, iv. 1876, p. 285; Hume & Davison, *op. cit.* vi. 1878, p. 40.

1 ♀ ad. Koh Kram, Inner Gulf of Siam. Oct. 1916.

Iris deep yellow; maxilla black; cere, culmen, and tip olive-yellow; mandible olive-yellow and black; feet deep yellow.

T. L. 305; W. 213.

This race from Pegu and Tenasserim was described as having the upper surface much darker than *N. s. lugubris* of northern India, but not so dark as the bird inhabiting

Malacca, Singapore, and Sumatra. I have compared my specimen and an unsexed skin from Bangkok (coll. H.R.H. Prince Chumporn) with birds from the Malay States, Singapore, and the Rhio Archipelago, and find that the upper parts of the Siamese birds are a less rich brown, being paler and duller on back and wings, and that the heads are paler and greyer.

I find that two forms occur in the Malayan localities mentioned:—(1) a smaller bird with richly-coloured underparts, having the wing in males (6 examples) 183–193, females (3 examples) 186–198 mm.; and (2) a larger race with the brown element less extensive below, and having wings in males (3 specimens) 210–216 mm. and females (2 specimens) 218 mm. The larger birds were obtained in the winter months on the mountains of the Malay States and on Pulau Jarak, an islet in the middle of the Straits of Malacca, and are probably examples of *N. s. scutulata* Raffles [*N. s. japonica* (Temm. & Schleg.)].

Both subspecies are similar in colour above; but in the smaller the brown markings on the flanks are broader and more bar-like, whereas in the larger they more nearly approach longitudinal streaks: these are the distinguishing characters recorded by Grant ('Ibis,' 1896, p. 111) for the Indian *N. scutulata* and *N. japonica* (T. & S.).

The Siamese birds have the lighter underparts of the larger race, but the flank-markings are intermediate in shape.

† 23. *Glaucidium cuculoides* (Vigors).

*Athene cuculoides bruegeli* Parrot, Verh. Orn. Gesellsch. Bayern, viii. 1911, p. 97.

1 ♀ ad. Lat Bua Kao.

1 ♀ ad. Koh Lak.

Iris lemon-yellow; edge of eyelid black; bill pale olive-green or olive-yellow, with tip and culmen yellow; feet pale olive-green or olive-yellow.

T. L. 235, 222; W. 148, 146.

Parrot's paper containing the description of *G. c. bruegeli*

is not available, so I have recorded my examples under the specific name.

† 24. *Bubo coromandus klossi* Robinson.

Robinson, Journ. Fed. Malay States Mus. iv. 1911, p. 247.

1 ♂ ad., 1 ♀ ad. Koh Lak.

Iris deep yellow; bill pale blue-grey; feet plumbeous-grey.

Male: T. L. 540; W. 380; B. f. g. 43.

Female: T. L. 545; W. 395; B. f. g. 46\*.

I have compared this pair with the type, which came from northern Perak, Malay States, and find that they are even slightly darker and duller than that individual.

PSITTACIDÆ.

† 25. *Palæornis fasciata* (P. L. S. Müll.).

1 ♀. Lat Bua Kao.

Iris pale yellow; orbital skin brownish-black; bill horny-brown; feet yellowish-black.

T. L. 337; W. 153; bill from cere 23; height at base 12.3.

Somehow we were unsuccessful with Parrots, and did not meet with any examples of the large Red-shouldered Paroquet, which also occurs at Lat Bua Kao, and which, on material lent me by Mr. W. J. F. Williamson, I have recently named *Palæornis eupatria siamensis* (Journ. Nat. Hist. Soc. Siam, ii. 1917, p. 219).

† 26. *Palæornis rosa* (Bodd.).

2 ♂, 1 ♀. Koh Lak.

*Males.* Iris pale yellow; cere black; maxilla yellow with orange base and black tip; mandible black with yellow base, or yellow streaked with black; feet dull olive.

*Female.* Iris yellowish-white; cere black; maxilla yellow

\* As in the type, where this measurement was given by some error as 1.55 inches (=39.5 mm.).

with horny tip; mandible black with greenish base; feet olive-grey.

Males: T. L. 302, 297; W. 132, 133; bill from cere 17, 17, height 9.5, 9.2.

Female: T. L. 235; W. 123; bill from cere 16, height 9.

Not previously recorded in this area from further south than Tavoy. It extends eastwards to the Mekong.

#### CORACIIDÆ.

##### + 27. *Coracias affinis* McClell.

*Coracias affinis theresiæ* Parrot, Verh. Orn. Gesellsch. Bayern, viii. 1911, p. 97.

1 ♂. Lat Bua Kao.

Iris brown; bill black; feet brown.

T. L. 335; W. 184.

This bird is often seen in Bangkok gardens in the winter season, but we met with very few while collecting.

While travelling from Koh Lak to Bangkok on Nov. 17 none were observed; but on my return to Koh Lak on the 21st, hundreds were seen perched on the telegraph-wires along the railway-line.

#### ALCEDINIDÆ.

##### + 28. *Alcedo ispida bengalensis* Gm.

1 ♂, 1 ♀. Tachin, Central Siam. Oct. 1916.

1 ♂, 2 ♀. Koh Lak.

Iris dark; bill (males) black, gonys red, (females) maxilla black, mandible dull red washed with black; feet red washed with brown.

Males: T. L. —, 160; W. 70, 69; B. f. g. 45, 44.

Females: T. L. —, 170, 162; W. 70, 72, 71; B. f. g. 45, 47, 45.

##### + 29. *Ceyx tridactyla* (Pall.).

1 ♀. Satahip, near Cape Liant, S.E. Siam. Nov. 1916.

1 ♀. Koh Mesan, off " " "

Iris dark; bill and feet orange to blood-red.

T. L. 136, 136; W. 57, 57.



† 30. *Halcyon smyrnensis fusca* (Bodd.).

Hartert, Nov. Zool. xvii. 1910, p. 215.

*Halcyon perpulchra* Madarász, Ann. Mus. Nat. Hungar.

ii. 1904, p. 85.

1 ♂. Tachin, Central Siam. Oct. 1916.

W. 113 ; B. f. g. 67.

† 31. *Halcyon chloris* (Bodd.).

*Halcyon chloris*, *H. armstrongi*, *H. humei* Sharpe, Cat. Birds Brit. Mus. xvii. pp. 272-3, 277, 281, pls. vii., viii. (1892).

1 ♀. Tachin, Central Siam. Oct. 1916.

W. 99 ; B. f. g. 55.

## UPUPIDÆ.

† 32. *Upupa epops longirostris* Jerdon.

Birds of India, i. 1862, p. 393.

1 ♂, 1 ♀. Koh Lak.

Iris dark ; bill black with fleshy-brown base ; feet (male) brownish-black, (female) blackish-plumbeous.

Male : T. L. 310 ; T. 95 ; W. 137 ; B. f. g. 65.

Female : T. L. 295 ; T. 95 ; W. 130 ; B. f. g. 61.

Both these birds lack any white spot on the first primary, as do two Siamese specimens belonging to Mr. W. J. F. Williamson—a female from Bangkok (W. 130) and an immature male from Patani, peninsular Siam. It is absent in a female (W. 129) from the island of Koh Samui, Peninsular Siam ; while a male from the State of Trang, in the same area, has a spot on one of the first primaries only.

A series of birds from the Malay Peninsula (Bandon to Selangor, where a straggler has been taken) all have white spots on the first primaries, but agree in dimensions with my Siamese specimens—3 males : wings 132-137, bills from gape 65-68 mm. ; 6 females : wings 126-131, bills from gape 54-60 mm. Gyldenstolpe records females from eastern Siam and Koh Lak with wings of 131 mm. ; while a male of his from northern Siam has the wing of 140 mm.

It seems evident that no value attaches to the presence or absence of spots on the first primary. I have retained

Jerdon's name for these Indo-Chinese birds, though Hartert (Vögel pal. Fauna, p. 870) considers that *U. e. indica* Reichenbach extends through the whole of India (exclusive of the south, where *U. e. ceylonensis* Reichenbach occurs) to southern China and Hainan.

From Koh Lak Gyldenstolpe records a male with a wing of 146 mm., and Mr. Williamson informs me that he has two adult males from Bangkok and south-eastern Siam with wings of 145 and 152 mm. and white spots on first primaries. These birds are so large that they call for examination, particularly since there is in the F.M.S. Museums a female Hoopoe from Taiping, Perak, with wing of 147 and bill from gape 55 mm.; though much worn, it is undoubtedly an example of *U. e. saturata* Lonnberg, and provides by a great distance the most southerly record of the race. +

#### MEROPIDÆ.

+ 33. *Melittophagus leschenaulti swinhoei* (Hume).

2 ♀. Lat Bua Kao.

Iris crimson; bill and feet black.

T. L. 222, 215; W. 110, 102.

+ 34. *Merops viridis* (Linn.).

*Merops sumatranus* Raffles & auct. (vide Hartert, Nov. Zool. xvii. p. 482).

1 ♂ subad., 1 ♂ imm. Lat Bua Kao.

Iris crimson; bill and feet black.

W. 109, 114.

The young bird is green throughout except for the rump, tail, and under tail coverts which are blue, and the ear-coverts which are dusky black.

+ 35. *Merops lamark burmanus* Neumann.

*Merops orientalis burmanus* Neumann, Ornith. Monatsber. xvii. 1910, p. 80.

*Merops viridis* auct. (vide Hartert, Nov. Zool. xvii. p. 482).

1 ♀. Lat Bua Kao.

3 ♂, 2 ♀. Koh Lak.

Iris crimson; bill and feet black.

Males : W. 96, 94, 94.

Females : W. 91\*, 91, 89\*.

In adults the top of the head and hind-neck are brilliant ferruginous, and the whole of the plumage is suffused with a coppery sheen.

Owing to the recent discovery by Dr. Hartert that the bird so long known as *M. sumatranus* is the one described by Linnæus much earlier under the name of *M. viridis*, the latter has to replace *M. sumatranus* Raffles, and we have got to employ a fresh specific name for the present bird. The earliest available is *Merops lamark* Cuvier, applicable to examples from Ceylon and Bengal, from which the Indo-Chinese form has been separated by Neumann as *burmanus*.

†36. *Merops philippinus* Linn.

1 ♀ subad. Koh Lak.

Iris crimson; bill and feet black.

T. L. 247; W. 126.

†37. *Nyctiornis athertoni* (Jard. & Selby).

1 ♂ ad. Lat Bua Kao.

Iris brown; bill black, base of lower mandible grey; feet olive.

T. L. 350; W. 142; T. 129; B. f. g. 55.

CAPRIMULGIDÆ.

†38. *Caprimulgus macrurus ambiguus* Hartert.

Hartert, Ibis, 1896, p. 373.

1 ♀ ad. Koh Lak.

T. L. 277; W. 189.

In his "Synopsis of the Races of the Long-tailed Goat-sucker" (Proc. U.S. Nat. Mus. vol. xlviii. 1915, pp. 589-599) Oberholser has resuscitated the name *bimaculatus* applied by Peale ('U.S. Exploring Expedition,' vol. viii., Mammals and Birds, p. 170) to a Malayan Nightjar, and has relegated *ambiguus* Hartert to its synonymy. According to him, the type of *C. m. bimaculatus* came from the Settlement of Malacca, and all Peninsular and more northern birds agree

\* Subadult.

with it, while those from Singapore together with Sumatra differ.

The type-locality of *bimaculatus*, however, is not Malacca in a restricted sense, but Singapore. Peale based this name on a bird "obtained at Singapore" (*l. c. s.*), and, later, stated that the species occurred in Malacca (*t. c. s.* p. 208). As every zoologist who deals with eastern material should know, the name Malacca was almost universally used by writers of English in the first half of the last century—especially by those who did not reside in the East—in the same way as the Dutch and other continental authors use it to-day, *i. e.*, the greater portion of the Malay Peninsula; and this is obviously what Peale meant when he stated, first, that *bimaculatus* was "obtained at Singapore," and, afterwards, that it came from "Malacca": not that it came from "Malacca, Malay Peninsula," as Oberholser would have us believe—a very different thing. Furthermore, a reference to the narrative of the U.S. Exploring Expedition shows that Malacca was not visited, Singapore being the only place of this region at which a call was made.

Oberholser is of opinion that two Malayan forms of *macrurus* are recognizable: one occurring in the Malay Peninsula, and also in Indo-China, which he argues is *C. m. bimaculatus* Peale (*C. m. ambiguus* Hartert being synonymous), and a second, found in Singapore and also Sumatra, to which he has given the name *anamesus*, Singapore being the typical locality (*t. c. s.* p. 593).

These two forms are said to differ in size alone, the smaller with a wing of 189 mm. and less (average 185.8\*) occurring in the south, and the larger with a wing of 190 mm. and more (average 193.5\*) being found in the north. This difference in dimensions is scarcely to be realised by an inspection of the series I have examined—a series considerably larger than that at Mr. Oberholser's disposal; but, admitting for the moment the correctness of his perceptions, Singapore and Sumatran birds will have to bear the name *bimaculatus* (*anamesus* ranking as a pure

\* *Vide* measurements, Oberholser, *t. c. s.* pp. 594, 596.



synonym), leaving available for the northern form the name *ambiguus* given by Hartert to birds from the Malay Peninsula, Burma, Assam, and the Eastern Himalayas. (The first-named place must be regarded as the typical locality; but it is a rather comprehensive term, and as I suspect Hartert meant by it all the country south of about lat. 13° N., I would restrict it for the sake of greater preciseness to the southern part of Tenasserim.)

I have before me a series of birds ranging through the Malay Peninsula from Siam to Singapore, and their wing-measurements are so variable that it seems impossible to strike a difference between northern and southern examples in this respect :—

Koh Lak, S.W. Siam.....	189.
Trang, Peninsular Siam.....	194, 190, 186, 186.
Langkawi Id., Kedah.....	194.
Trengannu, Malay States . . . .	177 (apparently adult).
Penang Id. ....	187 <sub>2</sub> .
Pahang, Malay States.....	193.
Perak, „ „ .....	193, 180.
Selangor, „ „ .....	196, 193, 193, 193, 191, 190, 190, 189, 188, 187, 185, 185.
Singapore Id. ....	181, 188, 186.

It will be seen that Singapore examples are no smaller than several more northern birds; and it remains to be shown if an equal series from that island will include longer-winged examples or not.

On laying the series out from north to south one gets the impression, however, that the buffy markings on the back and wings of southern birds are of a deeper, richer tint than is the case with northern specimens: this is not always so with individuals, but one seems to see a difference, though very slight, with series. The point where change takes place is about the latitude of Penang, and so I suggest that birds from the south of this, including Sumatra, should be known as *bimaculatus*, while northern birds should be called *ambiguus*. Of course, if this distinction prove fallacious and a difference cannot be established, all should stand as *bimaculatus* Peale.

†39. *Caprimulgus asiaticus* Lath.

2 ♂ ad. Koh Lak.

Iris dark; bill brownish, tip black; feet fleshy-brown.

T. L. 225, —; W. 144, 148.

## TROGONIDÆ.

†40. *Pyrotrogon oreskius* (Temm.).

1 ♀. Lat Bua Kao.

Orbital skin slaty-blue; bill slaty-grey, tip black; feet slaty-grey.

T. L. 290; W. 115; B. f. g. 22.

## CUCULIDÆ.

†41. *Surniculus lugubris dicruroides* Hodgs.

Stresemann, Nov. Zool. xx. 1913, p. 341.

1 ♀. Koh Lak.

Bill black; feet plumbeous, soles dull white.

T. L. 250; T. 125; W. 133\*; B. f. g. 27.

Stresemann, who has examined a large series of the Black Cuckoo, is of opinion that two subspecies must be recognized in Continental Asia—a large form, *S. l. dicruroides* (typical locality, Nepal: wing 136–148, average about 141 mm.), and a smaller race, *S. l. brachyurus* (typical locality, Pahang, Malay States: wing 117–139, average about 123 mm.). Both differ from the true *lugubris* of Java, Bali, and Ceylon (in which the wing ranges between 122 and 131) in having the middle tail-feathers longer, instead of shorter, than the wing. The former possibly ranges eastward as far as Hainan; the latter is said to occur also in Sumatra and Borneo.

I have measured nine adult birds from the Malay Peninsula (no white spots on the body), and I find their wings are as follows:—138, 137, 135, 135, 131, 127, 121, 118, 118. These dimensions are within the range given for *brachyurus*; but there is also a specimen obtained on the mountains in February with a wing of 145 mm. (almost the extreme of

\* The wing-measurements of other Siamese birds are 135, 135, 138 mm.

*dicruroides*), which may represent a winter visitor from the north. The presence of such birds in the Peninsula, where, again, they may be high-level residents, may have unduly raised the range for *brachyurus*. The birds of southern Burma and Siam are intermediate; but as there does not seem any necessity for recognizing them as a race, I would place them under *dicruroides*, to which they seem to come nearest.

† 42. *Cacomantis merulinus querulus* Hume.

Stresemann, Nov. Zool. xix. 1912, p. 332.

1 ♀. Koh Lak.

Iris red-brown; bill black, base of mandible brown; feet yellow washed with olive-brown.

T. L. 220; W. 108; B. f. g. 21.

As the result of his investigations of the Cuckoos of this species, Stresemann considered that the present dark-bellied form was Indo-Chinese, while the home of the true *merulinus* was the Malayan and Philippine areas. I find, however, that both races occur in the Malay Peninsula, whence we have adult specimens of *C. m. querulus* taken in July, August, September, and December, with wings 103, 103, 106, 107 mm.

Stresemann, who regards the *merulinus* of Java as not distinguishable from the typical bird of the Philippines, considers that the *merulinus* of the Malay Peninsula is intermediate between *C. m. merulinus* and *C. m. querulus*. It is indeed intermediate in colour between the yellow-bellied Javan and Bornean birds and the rufous-bellied northern *querulus*, but it is quite constant; therefore I see no reason why the name of *threnodes*, applied to it by Cabanis and Heine, should not stand. The wing-lengths of adult Peninsular birds, in a series I have examined, are:— 95, 97, 97, 98, 98, 99, 100, 104 mm.

*Cacomantis sepulchralis* (S. Müll.) also occurs in the Malay Peninsula, though unrecognized there by Stresemann (*t. c. s.* pp. 332, 334). I find that the wings of adult examples measure 107, 108, 113, 114 mm., and I am inclined to attribute to this species or race all banded birds obtained

in the Peninsula, though the bars (which are rufescent) on the inner webs of the tail-feathers extend to the quill.

†43. *Eudynamis orientalis malayana* Cabanis.

1 ♂. Tachin, Central Siam. Oct. 1916.

1 ♀. Lat Bua Kao.

*Female.* Iris crimson; maxilla greenish-horny; mandible pale dull greenish; feet plumbeous-horn.

*Male:* T. L. —; T. 187; W. 203; Ta. 34; B. f. g. 37.

*Female:* T. L. 440; T. 213; W. 222; Ta. 35; B. f. g. 37.5.

These two birds are larger than the Indian form, *E. o. honorata*, and the female has the top of the head rufescent, while by far the greater number of the pale markings on the upper parts are also rufescent; the under parts are black and buff.

I am indebted to Mr. W. J. F. Williamson for the information that the wings of birds in his collection from central and eastern Siam range between 203 and 221 mm. in the case of adult males and 198 and 215 mm. in females.

The first race geographically adjoining *honorata* to be separated on account of larger size was *malayana* Cabanis, of Sumatra, which Hartert, in his "Notes on the Genus *Eudynamis*" (Nov. Zool. x. 1903, p. 235) considers to extend north to Tenasserim.

Ingram has recently described from Hainan, on account of its slightly smaller size, a pale form like *E. o. honorata*, under the name of *E. o. harterti* (Nov. Zool. xix. 1912, p. 279). Before this name is further used, however, Hainan birds should be compared with specimens from Canton, since to birds of this locality the name *chinensis* has been given by Cabanis and Heine (Mus. Hein. iv. 1862, p. 52, note).

†44. *Centropus sinensis intermedius* Hume.

1 ♂. Koh Si Chang, Inner Gulf of Siam. Jan. 1915.

1 ♂, 1 ♀. Koh Lan, " " Oct. 1916.

1 ♂. Koh Lak.

Iris crimson; bill and feet black.

Males: T. L. 500, —, 510; W. 197, 189, 194; B. f. g. 44, 43, 43.

Females: T. L. 515; W. 199; B. f. g. 45.

† 45. *Rhopodytes tristis hainanus* Hartert.

Nov. Zool. xviii. 1910, p. 218.

2 ♂, 1 ♀. Lat Bua Kao.

1 ♂. Koh Lak.

Iris brown; orbital skin deep crimson; bill apple-green; feet plumbeous.

Males: T. L. 585, 510, 575; W. 157, 152, 153.

Female: T. L. 505; W. 145.

CAPITONIDÆ.

† 46. *Thereiceryx lineatus* (Vieill.).

2 ♂, 1 ♀. Lat Bua Kao.

Iris brown; orbital skin deep yellow; bill fleshy; feet yellow.

T. L. 270, 275, 275; W. 115, 126, 131; B. f. g. 38, 41, 42.

These examples are intermediate between the true *lineatus* of Java and the large form *hodysoni* Bp. of Nepal.

I have an adult female from Chiangmai, northern Siam (coll. K. G. Gairdner), which agrees with these examples in colour and size (wing 126), but has a much longer bill, the length from gape being 46 mm.

† 47. *Thereiceryx flavostrictus* (Temm.).

*Bucco flavostrictus* Temminck, Pl. Col. iii. 1831, p. 527.

*Thereiceryx phæostriata*, Robinson, Ibis, 1915, p. 737.

1 ♂ ad. Lat Bua Kao.

Iris red-brown; bill pale plumbeous, tip black; feet plumbeous-olive.

T. L. 247; T. 66; W. 108; Ta. 27; B. f. g. 38.5; culmen from frontal 30; exposed culmen 27.

*T. flavostrictus* was based on a specimen from Cochin-China (*vide* also Oustalet, Nouv. Archiv. du Mus. (iv.) i. p. 249). In Bull. B. O. C. xxiii. 1908, p. 31, Neumann pointed out the differences between northern and southern



birds, and, erroneously believing that the typical race came from the north, redescribed the smaller southern form under the name of *saigonensis*, which is a pure synonym of *flavostrictus*. The type of the latter is in the Leyden Museum, and its measurements are (*vide* Goffin, Mus. Pays-Bas, i. p. 37): bill 24.8; wing 112.8; tail 67.7; tarsus 22.5 mm.,—while the type of *saigonensis* from Saigon measures: culmen 26.5; wing 103; tail 58; tarsus 24.5.

The larger darker-headed northern form, ranging from southern China to Annam, is thus still without a name, and may be known as

*THEREICERYX FLAVOSTRICTUS PRÆTERMISSUS*, subsp. nov.

Typical locality: Southern China. Extreme measurements recorded: culmen 30; wing 118, tail 80; tarsus 27.

As is to be expected, birds inhabiting a great part of Siam are intermediate between the two. The species is recorded by Gyldenstolpe in the extreme north-west, but in the south has not been met with west of the Menam.

†48. *Xantholæma hæmatocephala* (P. S. L. Müll.).

2 ♂. Lat Bua Kao.

Iris dark or brown; eyelids crimson; bill black; feet dull cerise, claws black.

T. L. 160, 170; W. 81, 84.

#### PICIDÆ.

49. *Gecinus canus hessei* (Gyldenstolpe).

*Picus canus hessei* Gyldenstolpe, Ornith. Monatsber. xxiv. 1916, p. 28; id. Kungl. Sv. Vet.-Akad. Handl. lvi. No. 2, 1916, p. 317.

*Picus canus occipitalis* Gyldenstolpe, Kungl. Sv. Vet.-Akad. Handl. l. No. 8, 1913, p. 47.

1 ♂, 2 ♀. Lat Bua Kao.

Iris crimson; bill black; feet grey.

T. L. 335, 333, 345; T. 103, 105, 105; W. 148, 148, 149; Ta. 31.5, 31, 31; B. f. g. 46, 49, 43.

Gyldenstolpe's statement (second reference quoted) that this race is smaller than *G. c. occipitalis* is an obvious slip.

Hargitt ('Ibis,' 1888, p. 10) has pointed out that Burmese specimens exceed in measurement those from Sikkim and Cachar; and I have seen a male from Sikkim with a wing of 139 mm. only, against the 155 mm. which Siamese birds are known to attain.

My specimens, though not otherwise paler above than the Sikkim example, have the wings more markedly bronze-olive and the underparts greener and less olive; the females differ from the male in having the entire top of the head grey striped with black, in lacking the black lores and frontal feathers, and in having the black malar stripe much reduced.

Adjacent races are *G. c. tanceo* Gould of Formosa and southern China, *G. c. hainanus* Grant of Hainan, and *G. c. robinsoni* Grant of the Malay States.

† 50. *Gecinus erythropygus* Elliot.

Nouv. Archiv. Mus. Paris, Bull. 1865, i. p. 76, pl. iii.

1 ♂, 1 ♀. Lat Bua Kao.

Iris lemon-yellow; eyelids black; bill olive-yellow, tip horny; feet plumbeous.

Bill from gape—male, 37; female, 35.5.

Described from lower Cochin-China, this Woodpecker seems to extend westward a little beyond Korat in eastern Siam, where it has been met with by Gyldenstolpe as well. In northern Siam it is replaced by *G. e. nigriyensis* Hume, a very distinct subspecies and far handsomer bird.

As this is a rare bird in collections, I have put together the following measurements:—

		T.L.	T.	W.	Ta.	Culmen.	
Lower Cochin-China.	♀.	279	111	140	29.5	29.5*	..... fide Elliot (type).
	♂.	317	114	161	31	40	..... } fide Hargitt.
North Cambodia and Laos.	♀.	292	109	159	29	34	..... } fide Hargitt.
	♂.	275	122	153	—	33	..... fide Gyldenstolpe.
Eastern Siam, near Korat.	♂.	322	105	151	27	31.0 †, 34.5 †	} mihi.
	♀.	315	105	150	28.5	31.5 †, 35.5 †	
	♂.	294	77	140	28	29.5 †, 34.0 †	} B. f. g. 35 (subadult).
	♀.	315	108	150	29	31.0 †, 34.5 †	

\* "Bill from front." † Exposed portion of culmen. ‡ Culmen from base of frontal.

(There is a considerable range in the length of the culmen, which may be due to different methods of measurement. It is a dimension about which some confusion probably exists: a measurement used by Tweeddale, viz. length of bill from nostril, was much more definite, but being taken on a reduced length had the disadvantage of making differences in size appear less obvious. The length of bill from gape seems to be best, as being that least capable of two interpretations and at the same time the greatest measurement that can be taken.)

The type from the extreme south of French Indo-China seems to have been an immature bird, as it is of practically the same size as the obviously subadult individual from Lat Bua Kao, which had, further, a very worn tail. The specimens from northern Cambodia and Laos are larger than the others, and it may be that there is a general increase in size in that direction.

† 51. *Gecinus vittatus eisenhoferi* (Gyldenstolpe).

*Picus vittatus eisenhoferi* Gyldenstolpe, Ornith. Monatsber. xxiv. 1916, p. 28; id. Kungl. Sv. Vet.-Akad. Handl. lvi. No. 2, 1916, p. 88.

*Gecinus vittatus* Robinson, Ibis, 1915, p. 738.

1 ♂. Lat Bua Kao.

1 ♂. Koh Mesan off Cape Liant, S.E. Siam. Nov. 1916.

Iris brown or crimson; maxilla black or plumbeous-black; mandible olive or greenish-yellow, tip black; feet olive.

T. L. 296, 320; W. 140, 137; B. f. g. 38, 39.

The type, a female and only specimen obtained, was described as having the upper parts "bright grass-green instead of yellowish-olive; the rump-feathers fiercely tipped with yellow," and was perhaps an abnormally bright individual, for my examples confirm the character of greater size only (wing 142). It is interesting to note the increase in this respect as the species proceeds northwards:—

Java (a pair from the typical locality) . . . . .	Wings	123-126
Malay States (Johore, Negri Sembilan, Selangor)..	„	123-128
Langkawi Id., east coast Malay Peninsula . . . . .	„	128-135
South-east Siam (Klong Menao) . . . . .	„	137-137
East Siam (west of Korat) . . . . .	„	137-140
North Siam . . . . .	„	142

I have compared the Malay States birds with those from Java and cannot perceive any differences whatever. All the more northern birds having wings above, say, 135 mm., should, I think, be called *G. v. eisenhoferi*.

† 52. *Gecinus viridanus* (Blyth).

*Gecinus weberi* Müll. Ornith. Ins. Salanga, 1882, p. 69.

1 ♂, 1 ♀. Koh Lak. 15, 16. xi. 1916

Iris crimson; orbital skin grey; maxilla black; mandible greenish-yellow with black tip; feet olive-green.

T. L. 305, 290; W. 137, 133.

This Woodpecker does not seem to extend southward beyond the latitude of Peninsular Siam, and five birds from the southern part of that area have wings ranging from 128 to 135 mm. A male from Tanjong Badak, southern Tenasserim, has the wing of the same size as the Koh Lak male, and a male and female from Mergui and the foot of Muleyit have wings of 132 and 130 mm. The typical locality of *G. viridanus* is Arakan.

† 53. *Gecinus striolatus* (Blyth).

*Picus striolatus* Blyth, Journ. Asiat. Soc. Bengal, xii. 1843, p. 1000. "Himalayas and Central India." Typical locality restricted, Himalayas.

1 ♂ ad. Koh Lak.

Iris, inner ring crimson, outer white; maxilla horny brown; mandible dull yellow, tip brownish; feet olive.

T. L. 265; T. 83; W. 127; Ta. 23; B. f. g. 33.

The Indian Museum, Calcutta, has a pair of this bird from "Burma" with wings of 129 mm., but it seems to attain a considerably larger size, as Oates gives the wing-length of Upper Pegu examples as ranging from 136 to 141

(‘Stray Feathers,’ iii. p. 68), and Scully obtained a male in Nepal with a wing of 137 mm. According to Oustalet this Woodpecker extends to Cochin-China, and Anderson obtained it in Yunnan.

†54. *Gecinulus viridis* Blyth.

1 ♀ ad., 1 ♀ imm. Lat Bua Kao.

Iris brownish crimson, dark brown\*; bill pale lavender, lavender-white\*; feet olive.

T. L. 257, 237\*; W. 127, 114\*; B. f. g. 27, 26·5\*.

This is probably only a rather marked southern subspecies of *G. grantia* (McClell.), which is known from Nepal to Assam, and again from French Laos (Attopeu, east of Bassac, not Laos, northern Siam). Described originally from Tenasserim, it extends into Pegu and down the Malay Peninsula.

Malayan birds do not differ in size (wings of males 120–129, females 118–131), but, compared with my specimens, the females are rather darker below, *i. e.*, more brownish, less greenish, olive, and the white spots on the inner webs of the wing-feathers are smaller; the head also is slightly darker throughout and the broad yellowish nuchal collar absent, the crown and nape being practically concolorous. They may be known as

†*Gecinulus viridis robinsoni*, subsp. nov.

Typical locality: Mountains of the Selangor–Pahang Boundary, Malay States. Named after my colleague H. C. Robinson, who, by allowing one of his collectors to engage with me during my vacation in Siam, helped to considerably increase the results of my visit.

†55. *Brachylophus chlorolophus chlorolophoides* Gyldenstolpe.

*Brachylophus chlorolophoides* Gyldenstolpe, Orn. Monats. xxiv. 1916, p. 29; id. Kungl. Sv. Vet.-Akad. Handl. lvi. No. 2, 1916, p. 90, pl. 2. fig. 2.

1 ♀. Lat Bua Kao.

\* Immature female.



Iris crimson; eyelids black; maxilla black; mandible greenish-yellow, tip black; feet dark olive.

T. L. 265; T. 90; W. 133; Ta. 21; B. f. g. 31; exposed culmen 24.

I am afraid that some confusion exists in regard to the way the Indo-Chinese representative of *B. chlorolophus* has been treated. Gyldenstolpe has recorded as typical, birds from northern Siam, and has also described from the same locality, under the name of *B. chlorolophoides*, a single male which, it is stated, "differs by the intensity of the red colour of the crown and nape" and other *relative* features. But *B. chlorolophus* does not possess a red crown as, by inference from the above quotation, Gyldenstolpe believes; and it seems very possible that the specimens he regards as *chlorolophus* are only somewhat less extreme examples, not specifically different from the individual he has named *chlorolophoides*. Like other races of *chlorolophus* (*longipennis* Hartert, from Hainan; *wrayi* Grant, from the Malay Peninsula; *chlorogaster* Jerdon, from Ceylon and S. India), it differs chiefly in having a considerably greater amount of red on the crown and occiput. Hartert (Nov. Zool. xvii. p. 222) was not certain that the five males on which he founded his subspecies were really adult—two had no red malar stripe, and in the other three it was indicated by some red spots only, the crown was "red with some large green patches; it is impossible to say if the crown would ever become quite red." *B. chlorolophoides*, of the same size, seems only doubtfully distinct in having the occiput red, the basal part of the crown-feathers greenish-grey broadly tipped with red; and a broad malar stripe red faintly barred with dusky olive, the feathers having grey bases.

My specimen differs from a female from Manipur only in having the nuchal crest paler yellow, the outer webs of the primaries unspotted and the primaries and secondaries much more extensively coloured with deeper red, the rectrices more edged with golden olive; while the throat and breast are greener olive.

4 56. *Micropternus brachyurus williamsoni*, subsp. nov.

1 ♂ ad. Koh Lak, S.W. Siam. 10 Nov. 1916.

Iris dark; bill plumbeous-black; feet brownish-black.

T. L. 230; T. 62; W. 112; Ta. 21; B. f. g. 26.5.

Differs from the form inhabiting the Malay Peninsula south of Lat. 9° N. (which if distinct from the Javan bird will have to be known as *M. b. squamigularis* Sundevall\*) in having the dark median area of the chin and throat-feathers much narrower with no pale shaft-line, and their pale edges broader; rather darker breast; dark bars on the tail (five and a black tip), though reaching the shafts yet much narrower (2 mm. above and 1 mm. below, against 3 mm. or more above and below), and also narrower dark bars on the back and wings. Size about the same, as the Malayan birds vary in wing-length between 102 and 114 mm.; the larger wings occurring in the south as well as in the north of their area.

*M. b. phaiiceps* differs in having the shafts of the wing and tail-feathers clear brown, not barred with black; while *M. b. fokiensis* of eastern China and *M. b. holroydi* of Hainan have the plumage dark brown above narrowly barred with rufous.

Where my own material has been meagre Mr. W. J. F. Williamson has, in a number of instances, lent me additional specimens from his own collection, and I have much pleasure in naming this Woodpecker after him in recognition of this assistance.

All forms of *Micropternus* are, as Hartert has noted (Nov. Zool. xvii. p. 221), only subspecies of *brachyurus*. In dealing with continental birds—exclusive of the dark brown rufous-barred races of southern China, and perhaps Tonkin and northern Laos—it seems simplest to place them in two sections:—(1) the *brachyurus* group with the shafts of the wing-feathers barred or otherwise blackened, and (2) the *phaiiceps* group, in which the wing-shafts are perfectly unsullied. All the southern forms belong to the first

\* *Consp. Av. Pic.* 1866, p. 89 (ex Malacca).

section : those which have been recognized are *brachyurus* (or *squamigularis*) of the Malay Peninsula, *williamsoni* of south-western Siam, and *gularis* of southern India.

The Ceylon bird, while otherwise resembling *gularis*, differs in its darker colour, which is nearer bay. It may be known as

***Micropternus brachyurus lanka*, subsp. nov.**

Further I find that some birds in the Indian Museum from Cuttack, Calcutta, and "Bengal" have the darkened wing-shafts of *gularis*, but lack the notably dark throat-feathers of that race which are pale-edged near the apices only : they are thus intermediate between *phaiiceps* and *gularis*, but belong to the *brachyurus* group on account of their darkened wing-shafts. I would call them

***Micropternus brachyurus mesos*, subsp. nov.**

The *phaiiceps* group is less easily disposed of, owing to the fact that the several names proposed have distributions attached which overlap. These names are :—

*Micropternus phaiiceps* Blyth, Journ. Asiat. Soc. Bengal, xiv. 1845, p. 195. "India proper extending eastward to Tipperah and Arakan." Subsequently (*t. c.* p. 551) this bird was stated to occur in "Bengal, Nepal, Assam, and Arakan," so that Bengal should be regarded as the typical locality. *Picus rufinotus* Bp. (Consp. Av. i. 1850, p. 113) is said to have come from Central Asia, but the type, which is in the British Museum, is labelled "Bengal"; thus *rufinotus* is probably rightly placed as a synonym of *phaiiceps*.

*Phaiopicus blythii* Malh. Rev. et Mag. Zool. 1849, p. 534. "Himalayas, Arakan, Tenasserim, and Nepal." As Hume says that birds from Sikkin are much larger than those of the plains ('Stray Feathers,' v. 1877, p. 479), and I find the same to be the case with specimens from Khatmandu, Nepal, this name is available for the race of the eastern Himalayas.

*Micropternus burmanicus* Hume, Proc. Asiat. Soc. Bengal, 1872, p. 70. "Thayetmyo, North Pegu." This name will serve at present for Burmese birds which are not *phaiiceps* (s. s.). The race was said to be most nearly allied to

*phaiiceps*, but to have the head less brown, the pale margins of the throat-feathers broader and more conspicuous, and to be brighter and larger; a specimen from Chiangmai, northern Siam, agrees. All birds I have seen from Indo-China (Assam to Siam north of the Malay Peninsula) are of *phaiiceps* section, having the wing-shafts unblackened.

One more race of *Micropternus* may well be distinguished: of it Hume writes (*loc. cit. supra*), "When you go towards the extreme western limits of the species in the Kumaon Bhabur, northern Rohilkund, the Dhoon, etc., you come upon a huge race almost more distinct from *phaiiceps* than the latter is from *brachyurus*."

"It is characterized not only by its size but by the almost entire absence of infuscation on the head, and by the fact that the adults are not only absolutely immaculate *below*, but also lose all markings on the upper surface, on the back, scapulars, and rump, which, coupled with the bright chestnut of their plumage, gives them a very different appearance from all the other races of *phaiiceps*."

For this race I suggest the name

*Micropternus brachyurus humei*, subsp. nov.

† 57. *Tiga javanensis intermedia* Blyth.

*Tiga intermedia* Blyth, Journ. Asiat. Soc. Bengal, xiv. 1845, p. 193.

*Tiga javanensis intermedia* Gyldenstolpe, Kungl. Sv. Vet.-Akad. Handl. lvi. No. 2, 1916, p. 95.

1 ♀. Lat Bua Kao.

1 ♂, 1 ♀. Koh Lak.

Iris dark brown or crimson; eyelids black; bill black, gonyx and proximal half of mandible pale plumbeous; feet olive or plumbeous-olive.

T. L. 280, 275, 265; W. 145, 142, 138; B. f. g. 34, 33, 33.

In a series of twenty adult examples of *T. javanensis* from the Malay Peninsula, south of Lat. 10° N., the wing-length varies from 125 to 136 mm. Three specimens from southern Johore and one from Bintang I., Rhio Archipelago, have



the entire under surface and sides of the head strongly suffused with ochraceous-tawny, but this occurs not infrequently in others of the series from farther north; this feature is quite lacking in all my Siamese birds, which, like the majority of the Malayan, are only faintly tinged with brownish below.

*T. j. javanensis* Ljung was based on Javanese material, but Gyldenstolpe (*l. c. s.*) erroneously states that Javanese birds are *intermedia* and that Malayan and Sumatran birds represent the typical form. His specimens of *intermedia* from northern Siam have wings varying from 139 to 154 mm.

Blyth, in describing this race, stated that it ranged from Nepal to Tenasserim, but he does not seem to have very clearly distinguished it from *T. shorei*.

† 58. *Callolophus mineatus perlutus*, subsp. nov.

*Callolophus malaccensis* Hume & Davison, Stray Feathers, vi. 1878, p. 140.

*Chrysophlegma miniatum malaccense* Gyldenstolpe, Kungl. Sv. Vet.-Akad. Handl. lvi. No. 2, 1916, p. 91.

1 ♂. Koh Lak, S.W. Siam. 15 Nov. 1916.

Iris crimson; maxilla black; mandible greyish-white; feet olive.

T. L. 265; T. 81; W. 137; Ta. 23; B. f. g. 34.5.

Larger than *C. m. malaccensis*; the breast and abdomen paler, the ground-colour being less tinged with brown and the dark bands narrower and farther apart; the yellow nuchal crest without any spots or bars of brownish.

† 59. *Chrysophlegma flavinucha lylei*, subsp. nov.

1 ♂ ad. Koh Lak, S.W. Siam. 15 Nov. 1916.

Iris crimson; orbital skin bright olive; bill pale grey, tip whitish; feet olive.

T. L. 320; T. 96; W. 158; Ta. 31; B. f. g. 44.3; culmen to frontal 43; exposed culmen 38.

Smaller than *C. f. flavinucha* Gould, of the Himalaya (the wing of which attains a length of 173 mm. or more); throat paler: a few white feathers on the loreal region as in



*C. f. wrayi* Sharpe, from the mountains of the Malay States ; in *C. f. flavinucha* the lores are well clad with feathers concolorous with the forehead.

This form differs from *C. f. pierrei* Oust. (specimens from Lat Bua Kao, E. Siam) in the paler bill and in the nearly black, instead of brown, centres to the feathers of the fore-neck ; it also has the sides of the head, neck, forehead, and crown rather darker.

From *C. f. wrayi* Sharpe it is separated by larger size ; more white on the feathers of the fore-neck, the black of which is not continued in two lines to the base of the mandible to form distinct yellow chin and malar patches ; much paler under surface ; larger yellow nuchal crest and paler bill, that of *wrayi* being slate-coloured.

I have not seen *C. f. ricketti* Styan, of Fokien, S. China, nor *C. f. styani* Grant, of Hainan, but (*vide* Grant, 'Ibis,' 1899, p. 588 ; Bonhote, P. Z. S. 1901, p. 71) both have dark chins and almost white malar patches ; the former is as large as *C. f. flavinucha*, while the latter is of the size of *wrayi*, but has the largest bill of all.

I have compared *C. f. lylei* with examples of *flavinucha* from Darjeeling lent to me by the Indian Museum, together with a male bird from "Burma" (coll. Dr. Williams), which differs from them in having the white of the fore-neck confined to the extreme bases of the feathers and entirely concealed by the long black ends.

This Woodpecker is named in honour of Mr. T. H. Lyle, H.B.M. Consul at Bangkok, and once an enthusiastic collector of mammals, in recognition of the assistance and courtesy received from him during my two visits to Siam.

† 60. *Chrysocolaptes strictus gutticristatus* (Tickell).

*Chrysocolaptes gutticristatus indomalayicus* Gyldenstolpe, Kungl. Sv. Vet.-Akad. Handl. I. No. 8, 1913, p. 49.

*Chrysocolaptes gutticristatus gutticristatus* Gyldenstolpe, *op. cit.* lvi. No. 2, 1916, p. 95.

3 ♂, 1 ♂. Lat Bua Kao.

Iris yellow or pinkish-yellow ; eyelids black ; bill blackish,

mandible sometimes paler or greenish; feet dark olive or plumbeous-olive, soles dirty yellow.

T. L. 322, 320, 310, 315; W. 165, 167, 165, 166; B. f. g. 51, 56, 53, 50.

Gyldenstolpe, who collected this species on both his visits to Siam, first identified a female from eastern Siam (wing 159) and other birds from northern Siam (wings 156-159) as *indomalayicus* Hesse, and later recorded other specimens from the latter locality (wings 161-168) as true *gutticristatus*, the typical locality of which is Chota Nagpur.

The typical locality of *indomalayicus* is the island of Salanga or Junk-Ceylon, near the west coast of the Malay Peninsula, whence Hume and Davison record males with wing-lengths of 156 and 160 mm., "bills from front" 46 and 50 mm. I have examined a series from the Malay Peninsula and Lang Kawi Id., and find that the wings measure from 148 to 157 mm.

Large birds from the Himalaya with wings of 170-190 mm. (and also from the Dafla Hills, Assam, whence the Indian Museum has a female with wings of 175) are *sultaneus* Hodgs.; while the southern Indian form, *delesserti* Blyth, has wings of about 147-155 (*vide* Hume, 'Stray Feathers,' iii. p. 64). The first continental bird to be described, *gutticristatus* Tickell, is scarcely represented topo-typically in collections and no useful measurements have been recorded, which is most unfortunate, as all these races are merely dimensional ones.

In view of its position *gutticristatus* is probably intermediate in size between *sultaneus* and *delesserti*, and therefore has wings of 155-170 mm., in which case it is difficult to see how *indomalayicus* Hesse can be maintained, especially since birds from Tipperah, Arakan, Pegu, and Siam come exactly between the maximum and minimum of *delesserti* and *sultaneus* as given above. Until therefore we know more about *gutticristatus*, it seems to me that it would be best to ignore *indomalayicus* and regard *gutticristatus* as extending from Bengal through Burma and Siam into the Malay Peninsula as far as Lang Kawi Island.

In spite of assiduous collecting in the Malay States for many years, we have not succeeded in obtaining any specimens of *Chrysocolaptes* except on Lang Kawi Island and again in the extreme south, where it reappears once more after a gap of several hundred miles.

An adult male from Singapore Island has a wing of 143 mm., and another from the coast of Johore opposite measures in wing 146, while its bill is also considerably shorter than those of northern examples—in fact, these are altogether smaller birds, and on this account may be distinguished as

♣ *Chrysocolaptes strictus chersonesus*, subsp. nov.

I do not see how *Picus strictus* Horsfield, of Java, can be maintained as specifically distinct, so being the oldest name (Trans. Linn. Soc. xiii. 1822, p. 176) it must have preference over all others.

† 61. *Sasia ochracea reichenowi* Hesse.

Hesse, Ornith. Monatsber. xix. 1911, p. 181; Gyldenstolpe, Kungl. Sv. Vet.-Akad. Handl. lvi. No. 2, 1916, p. 97.

1 ♀. Lat Bua Kao.

Iris blood-red; orbital skin crimson; maxilla black; mandible plumbeous; feet orange-red, soles yellow.

T. L. 87; T. 21; W. (to tip of 4th primary) 50; Ta. 12; B. f. G. 14.5.

Gyldenstolpe writes:—"The Rufous Piculet inhabiting Siam belongs to the form which Hesse has separated under the name of *S. o. reichenowi*. This subspecies also inhabits North Cachar, Burma, and Tenasserim. It is chiefly characterized by its being much brighter-coloured on the upper and under-parts of the body. Its size is also much smaller than typical *S. ochracea* Hodgs."

I have not seen Hesse's paper, but my female, as compared with a specimen from Sikkim, 6000 ft., and another from the Garo Hills, Assam (both unsexed), is paler above and below, more ochraceous, less rufous, and the head and wings are perhaps rather more olive. The wing is the same

size, but the tarsus and bill are a little longer ; the specimens lent to me by the Calcutta Museum having wings 50, 50 ; tarsus 13, 13 ; and B. f. g. 13, 14.5 ; and perhaps their deeper colour is due to their sex or age as specimens, the first having been collected in 1908 and the other by Dr. J. Anderson.

## EURYLÆMIDÆ.

† 62. *Cymborhynchus macrorhynchus malaccensis* Salvad.

*Cymborhynchus macrorhynchus* Robinson, Ibis, 1916, p. 740.

*Cymborhynchus macrorhynchus lemniscatus* Gyldenstolpe, Kungl. Sv. Vet.-Akad. Handl. lvi. No. 2, 1916, p. 87.

2 ♀ ad. Lat Bua Kao.

Iris emerald ; bill turquoise and yellow ; feet dark cobalt. T. L. 222, 225 ; W. 99, 100.

These specimens and others I have examined from Siam have broad oblique bars of white stretching from the quill to the edge of the inner web on the three outer tail-feathers, and represent Salvadori's *malaccensis* which seems sufficiently distinct on this account for recognition.

*C. m. macrorhynchus* (Gm.) came from Borneo, and the white tail-feathers are either absent or only faintly indicated by small spots on one or two of the feathers. Of *C. m. lemniscatus*, the type-locality of which may be taken as Bencoolen, Raffles wrote, "the tail is black" ; but specimens which I have seen from the west coast of Sumatra have both white-spotted tails and tails with scarcely any white on the feathers. All specimens, however, from the northern part of the range of this species seem to have markedly white-patched tails, and where the difference has become constant it should be recognized.

[To be continued.]